

=> d que l14

L4 1121 SEA FILE=HCAPLUS ABB=ON PLU=ON POLYETHYLENIMINE/CT  
L5 2 SEA FILE=REGISTRY ABB=ON PLU=ON POLYETHYLENIMINE/CN  
L7 7 SEA FILE=REGISTRY POLYLINK L5  
L8 9470 SEA FILE=HCAPLUS ABB=ON PLU=ON L7  
L9 1121 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 AND L8  
L11 STR

10  
NH  
~  
CH2 9  
~  
CH2 8  
~

NH~CH2~CH2~N~CH2~CH2~NH  
1 2 3 4 5 6 7

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

L13 1536 SEA FILE=REGISTRY SSS FUL L11

L14 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND L13

=> d l14 ibib abs hitstr 1-7

L14 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:452925 HCAPLUS

DOCUMENT NUMBER: 141:17570

TITLE: Intravascular delivery of nonviral nucleic acid

INVENTOR(S): Hagstrom, James E.; Wolff, Jon A.; Monahan, Sean D.;  
Rozema, David B.; Budker, Vladimir G.; Slattum, Paul  
M.; Lewis, David L.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 35 pp., Cont.-in-part of U.S.  
Ser. No. 447,966.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 15

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004106567	A1	20040603	US 2003-609938	20030630
US 2001008882	A1	20010719	US 1999-391260	19990907
US 2001004636	A1	20010621	US 1999-447966	19991123
US 6627616	B2	20030930		
WO 2003040375	A1	20030515	WO 2002-US17556	20020530

W: JP

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,  
PT, SE, TR

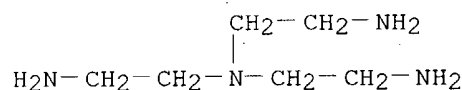
US 2003216347 A1 20031120 US 2003-600098 20030620  
 PRIORITY APPLN. INFO.: US 1999-391260 A2 19990907  
 US 1999-447966 A2 19991123  
 US 1995-571536 A 19951213  
 US 1997-975573 A1 19971121  
 US 1999-121730P P 19990226  
 US 1999-146564P P 19990730  
 US 2001-12804 A 20011106

AB The process comprises designing a polynucleotide, such as an siRNA, for transfection. The polynucleotide is inserted into a mammalian vessel such as an artery. Prior to insertion, subsequent to insertion, or concurrent with insertion, volume in the vessel is increased allowing the polynucleotide delivery to the parenchymal cell. In one preferred embodiment, a process is described for delivering a polynucleotide into a parenchymal cell of a mammal, comprising making a polynucleotide such as a nucleic acid, then inserting the polynucleotide into a mammalian vessel (e.g. a blood vessel) and increasing the permeability of the vessel, finally delivering the polynucleotide to the parenchymal cell thereby altering endogenous properties of the cell. Increasing the permeability of the vessel consists of increasing pressure against vessel walls. Increasing the pressure consists of increasing a volume of fluid within the vessel. Increasing the volume consists of inserting the polynucleotide in a solution into the vessel wherein the solution contains a compound which complexes with the polynucleotide. Preparation of polymers (e.g. L-cystine-1,4-bis(3-aminopropyl)piperazine copolymer) complexable with polynucleotides is also included.

IT 4097-89-6, Tris(2-aminoethyl)amine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (intravascular delivery of nonviral nucleic acid)

RN 4097-89-6 HCAPLUS

CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



IT 289888-10-4P 289888-12-6P 289888-15-9P  
 RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
 (intravascular delivery of nonviral nucleic acid)

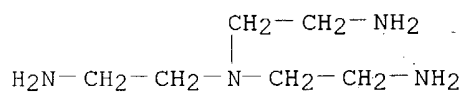
RN 289888-10-4 HCAPLUS

CN Benzoic acid, 3,3'-dithiobis[6-nitro-, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine and N,N-bis(2-aminoethyl)-1,2-ethanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 4097-89-6

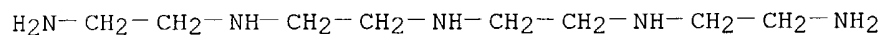
CMF C6 H18 N4



CM 2

CRN 112-57-2

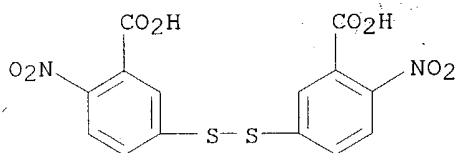
CMF C8 H23 N5



CM 3

CRN 69-78-3

CMF C14 H8 N2 O8 S2



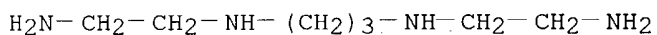
RN 289888-12-6 HCAPLUS

CN Benzoic acid, 3,3'-dithiobis[6-nitro-, polymer with N,N-bis(2-aminoethyl)-1,2-ethanediamine and N,N'-bis(2-aminoethyl)-1,3-propanediamine (9CI) (CA INDEX NAME)

CM 1

CRN 4741-99-5

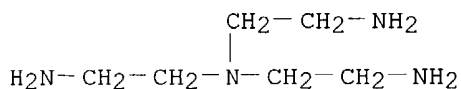
CMF C7 H20 N4



CM 2

CRN 4097-89-6

CMF C6 H18 N4



CM 3

O=[N+]([O-])c1ccc(cc1C(=O)O)SSc2ccc(cc2C(=O)O)[N+](=O)[O-]

CM 1

$$\begin{array}{c} \text{CH}_2-\text{CH}_2-\text{NH}_2 \\ | \\ \text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{N}-\text{CH}_2-\text{CH}_2-\text{NH}_2 \end{array}$$

CM 2

CRN 4067-16-7  
CMF C10 H28 N6

PAGE 1-A

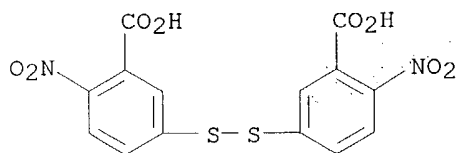
$$\text{H}_2\text{N}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{CH}_2-\text{CH}_2-\text{NH}-\text{CH}_2-$$

PAGE 1-B

$$-\text{CH}_2-\text{NH}_2$$

CM 3

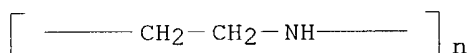
CRN 69-78-3  
CMF C14 H8 N2 O8 S2



IT 9002-98-6 26913-06-4, Poly[imino(1,2-ethanediyl)]  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (intravascular delivery of nonviral nucleic acid)  
 RN 9002-98-6 HCAPLUS  
 CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 151-56-4  
 CMF C2 H5 N



RN 26913-06-4 HCAPLUS  
 CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



L14 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:985308 HCAPLUS

DOCUMENT NUMBER: 141:59370

TITLE: Combined suicide gene therapy for pancreatic  
 peritoneal carcinomatosis using BGTC liposomes

AUTHOR(S): Hajri, Amor; Wack, Severine; Lehn, Pierre; Vigneron,  
 Jean-Pierre; Lehn, Jean-Marie; Marescaux, Jacques;  
 Aprahamian, Marc

CORPORATE SOURCE: INSERM U375, IRCAD, Strasbourg, 67091, Fr.

SOURCE: Cancer Gene Therapy (2004), 11(1), 16-27

CODEN: CGTHEG; ISSN: 0929-1903

PUBLISHER: Nature Publishing Group

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Peritoneal dissemination is a common end-stage complication of pancreatic cancer for which novel therapeutic modalities are actively investigated, as there is no current effective therapy. Thus, we evaluated, in a mouse model of pancreatic peritoneal carcinomatosis, the therapeutic potential of a novel nonviral gene therapy approach consisting of bis-guanidinium-tren-cholesterol (BGTC)-mediated lipofection of a combined suicide gene system. Human BxPC-3 pancreatic cells secreting the carcinoembryonic antigen (CEA) tumor marker were injected into the peritoneal cavity of nude mice. After 8 days, i.p. (i.p.) lipofection was performed using BGTC/DOPE cationic liposomes complexed with plasmids

encoding the two prodrug-activating enzymes Herpes Simplex Virus thymidine kinase and Escherichia coli cytosine deaminase, the latter being expressed from a bicistronic cassette also encoding E. coli uracil phosphoribosyltransferase. Administration of the lipoplexes was followed by treatment with the corresponding prodrugs ganciclovir and 5-fluorocytosine. The results presented herein demonstrate that BGTC/DOPE liposomes can efficiently mediate gene transfection into peritoneal tumor nodules. Indeed, HSV-TK mRNA was detected in tumor nodule tissues by semiquant. reverse transcription-polymerase chain reaction anal. In addition, green fluorescent protein (GFP) fluorescence and X-gal staining were observed in the peritoneal tumor foci following lipofection of the corresponding EGFP and LacZ reporter genes. These expression analyses also showed that transgene expression lasted for about 2 wk and was preferential for the tumor nodules, this tumor preference being in good agreement with the absence of obvious treatment-related toxicity. Most importantly, mice receiving the full treatment scheme (BGTC liposomes, suicide genes and prodrugs) had significantly lower serum CEA levels than those of the various control groups, a finding indicating that peritoneal carcinomatosis progression was strongly reduced in these mice. In conclusion, our results demonstrate the therapeutic efficiency of BGTC-mediated i.p. lipofection of a combined suicide gene system in a mouse peritoneal carcinomatosis model and suggest that BGTC-based prodrug-activating gene therapy approaches may constitute a potential treatment modality for patients with peritoneal carcinomatosis and minimal residual disease.

IT 9002-98-6, Polyethylenimine 26913-06-4, Polyethylenimine  
182056-06-0, BGTC  
RL: BSU (Biological study, unclassified); PAC (Pharmacological activity);  
THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(combined suicide gene therapy for pancreatic peritoneal carcinomatosis  
using bis-guanidinium-tren-cholesterol (BGTC) liposomes)

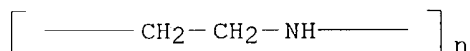
RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4  
CMF C2 H5 N



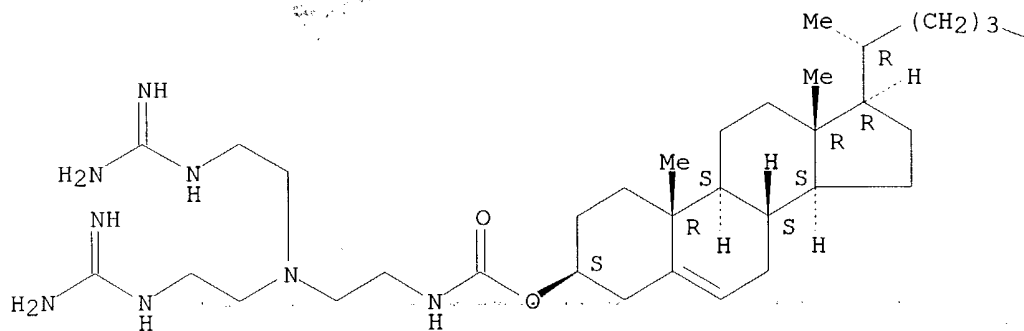
RN 26913-06-4 HCAPLUS  
CN Poly[imino(1,2-ethanediy)] (9CI) (CA INDEX NAME)



RN 182056-06-0 HCAPLUS  
CN Cholest-5-en-3-ol (3β)-, [2-[bis[2-[(aminoiminomethyl)amino]ethyl]ami  
no]ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

CHMe<sub>2</sub>

REFERENCE COUNT: 57 THERE ARE 57 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:963155 HCAPLUS

DOCUMENT NUMBER: 138:304544

TITLE: Synthesis, characterization, and modelling of novel multifunctional acryloyl-based monomers: an experimental and computational study

AUTHOR(S): Patras, Georgia; Qiao, Greg G.; Solomon, David H.; Koch, Rainer

CORPORATE SOURCE: The Polymer Science Group, Department of Chemical Engineering, The University of Melbourne, Parkville, 3010, Australia

SOURCE: Australian Journal of Chemistry (2002), 55(10), 675-680

CODEN: AJCHAS; ISSN: 0004-9425

PUBLISHER: CSIRO Publishing

DOCUMENT TYPE: Journal

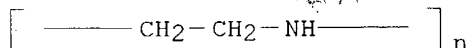
LANGUAGE: English

AB Several novel multifunctional monomers with at least three reactive N-acryloyl double bonds have been synthesized and fully characterized. Quantum-chemical calcs. and NMR (NMR) spectroscopy have been used to predict the structural dissymmetry of these monomers: the simulation of conformers and the NMR spectrum of monomer (3) allows the explanation of the observed <sup>13</sup>C NMR spectra as well as a comparison of the performance of several methods for calculating chemical shifts.

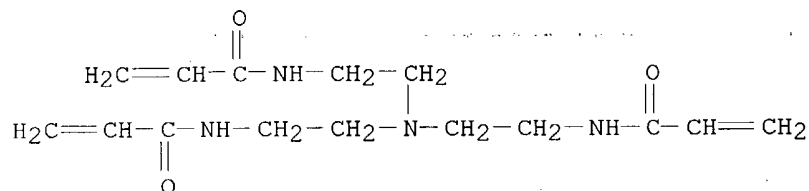
IT 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction products with (meth)acryloyl chloride 297732-08-2P, Triacryloyl tris(2-aminoethyl)amine 297732-09-3P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation) (synthesis, characterization, and modeling of novel multifunctional acryloyl-based monomers and crosslinkers)

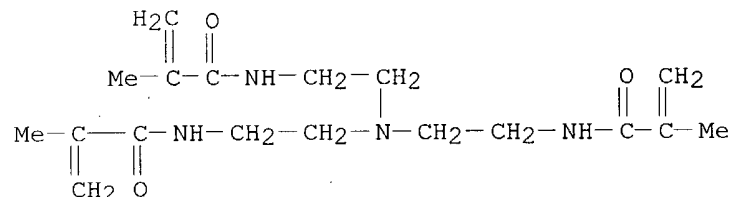
RN 26913-06-4 HCAPLUS  
 CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



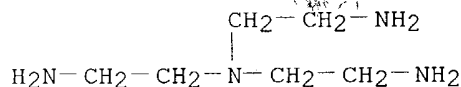
RN 297732-08-2 HCAPLUS  
 CN 2-Propenamide, N,N',N''-(nitrilotri-2,1-ethanediyl)tris- (9CI) (CA INDEX NAME)



RN 297732-09-3 HCAPLUS  
 CN 2-Propenamide, N,N',N''-(nitrilotri-2,1-ethanediyl)tris[2-methyl- (9CI) (CA INDEX NAME)]



IT 4097-89-6, Tris(2-aminoethyl)amine  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (synthesis, characterization, and modeling of novel multifunctional acryloyl-based monomers and crosslinkers)  
 RN 4097-89-6 HCAPLUS  
 CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)

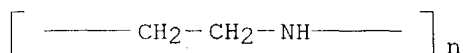


REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

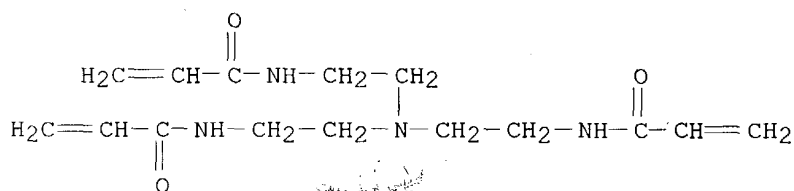
L14 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN  
 ACCESSION NUMBER: 2002:45279 HCAPLUS  
 DOCUMENT NUMBER: 136:243891  
 TITLE: Novel cross-linked homogeneous polyacrylamide gels with improved separation properties: investigation of



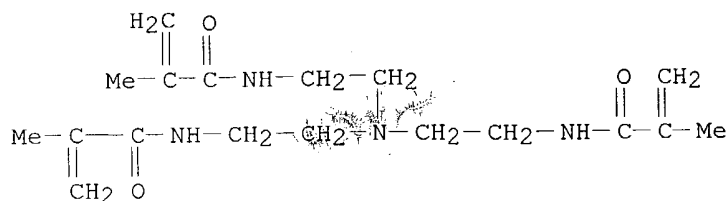
the cross-linker functionality  
 AUTHOR(S): Patras, Georgia; Qiao, Greg G.; Solomon, David H.  
 CORPORATE SOURCE: Polymer Science Group, Department of Chemical  
 Engineering, University of Melbourne, Victoria, 3010,  
 Australia  
 SOURCE: Electrophoresis (2001), 22(20), 4303-4310  
 CODEN: ELCTDN; ISSN: 0173-0835  
 PUBLISHER: Wiley-VCH Verlag GmbH  
 DOCUMENT TYPE: Journal  
 LANGUAGE: English  
 AB Polyacrylamide (PAAm) gels were synthesized using cross-linkers with their  
 potential functionality (twice the number of double bonds of a cross-linker)  
 varying from six to sixteen. Improved electrophoretic separation and highly  
 desirable porosity and sieving properties were observed for most of the PAAm  
 gels containing novel cross-linkers. An increase in the potential  
 functionality of cross-linkers used in PAAm gels was an important factor,  
 influencing the pore size and pore size distribution of the network.  
 IT 26913-06-4DP, Poly[imino(1,2-ethanediyl)], (meth)acryloyl amide  
 derivs. 297732-08-2P 297732-09-3P  
 RL: ARU (Analytical role, unclassified); RCT (Reactant); SPN (Synthetic  
 preparation); ANST (Analytical study); PREP (Preparation); RACT (Reactant  
 or reagent)  
 (cross-linked homogeneous polyacrylamide gels with improved separation  
 properties: investigation of cross-linker functionality)  
 RN 26913-06-4 HCAPLUS  
 CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



RN 297732-08-2 HCAPLUS  
 CN 2-Propenamide, N,N',N''-(nitrilotri-2,1-ethanediyl)tris- (9CI) (CA INDEX  
 NAME)



RN 297732-09-3 HCAPLUS  
 CN 2-Propenamide, N,N',N''-(nitrilotri-2,1-ethanediyl)tris[2-methyl- (9CI)  
 (CA INDEX NAME)]



REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 5 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:903994 HCAPLUS

DOCUMENT NUMBER: 136:39534

TITLE: Hydrogel product for adsorption purposes

INVENTOR(S): Porath, Jerker; Ersson, Bo

PATENT ASSIGNEE(S): Swed.

SOURCE: PCT Int. Appl., 32 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001094007	A1	20011213	WO 2001-SE1278	20010607
W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
SE 2000002152	A	20011209	SE 2000-2152	20000608
SE 516594	C2	20020205		
EP 1289651	A1	20030312	EP 2001-938915	20010607
R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR			
US 2003186807	A1	20031002	US 2003-297544	20030528
PRIORITY APPLN. INFO.:			SE 2000-2152	A 20000608
			US 2000-209999P	P 20000608
			WO 2001-SE1278	W 20010607

AB The present invention relates to a hydrogel product for adsorption purposes where an in-water insol. support matrix is cross-linked with polymers which give rise to an in-water swellable adsorbent. Further the polymers are internally cross-linked through at least one crosslinking agent. As a support matrix an organic polymer is used or a combination of such, e.g. polysaccharide such as agar, cellulose, starch and so on, protein and components of protein and polysaccharide. The support matrix is substituted with a first, soluble polymer material chemical bound to the support matrix, whereupon addnl. polymer materials optionally are built-in in the primary synthesized support matrix complex through different kinds of cross-links, wherein optionally the support matrix is present in the

form of an acid- and base-stable residue. The hydrogel product may have the structural formula  $PYX_1A_1(X_z)X_n$  where P is the support matrix, Y is a nitrogen, sulfur or oxygen bridge,  $X_1$ ,  $X_n$ ,  $X_z$  are the same or different di-, tri- or polyfunctional crosslinking agents,  $A_1$  is a water-soluble polymer material,  $n$  is a whole number where  $n \geq 2$ ; and  $z$  is 0 or a whole number where  $z \geq 0$ . The hydrogel product may also have the structural formula  $PYX_1A_1(X_2A_2)X_iA_i(X_z)X_n$  where P is a support matrix, Y is a nitrogen, sulfur or oxygen bridge,  $X_1$ ,  $X_i$ ,  $X_n$ ,  $X_z$  are the same or different di-, tri- or polyfunctional crosslinking agents,  $A_1$ ,  $A_i$  are water-soluble polymer material, preferably the same or different kinds of cross-linked residues of amines, and  $n$  and  $i$  are whole nos. where  $i \geq 2$  and  $n \geq 2$ ; and  $z$  is 0 or a whole number where  $z \geq 0$ . One or more of  $A_1$ ,  $A_i$  consist(s) of residues of a straight or branched polyalkylene amine, preferably oligo or polyethylene amine, or residues of other amines, the most preferred a polyalkylene diamine.

IT 9002-98-6, Polyaziridine  
 RL: NUU (Other use, unclassified); USES (Uses)  
 (crosslinking agent in crosslinked polymeric hydrogel adsorbent)  
 RN 9002-98-6 HCAPLUS  
 CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

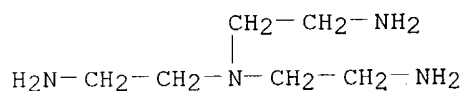
CM 1

CRN 151-56-4

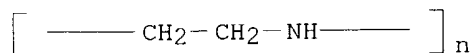
CMF C2 H5 N



IT 4097-89-6, Tris (2-aminoethyl)amine 26913-06-4,  
 Poly[imino(1,2-ethanediyl)]  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (polymer in crosslinked polymeric hydrogel adsorbent)  
 RN 4097-89-6 HCAPLUS  
 CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 26913-06-4 HCAPLUS  
 CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L14 ANSWER 6 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:94747 HCAPLUS  
DOCUMENT NUMBER: 128:223849  
TITLE: Solid dispersion composition, photosensitive  
composition and photosensitive material for color  
proof  
INVENTOR(S): Akiyama, Takeo; Watanabe, Shinya  
PATENT ASSIGNEE(S): Konica Co., Japan  
SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.  
CODEN: JKXXAF  
DOCUMENT TYPE: Patent  
LANGUAGE: Japanese  
FAMILY ACC. NUM. COUNT: 1  
PATENT INFORMATION:

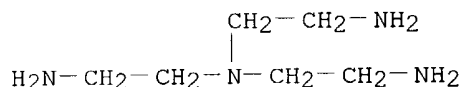
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10036648	A2	19980210	JP 1996-196432	19960725

PRIORITY APPLN. INFO.: JP 1996-196432 19960725

AB The solid dispersion composition contains (1) a solid, (2) a polyester selected from (O-X-CO) or (O-Y-O-CO-X-CO) (X, Y = C2-18 alkylene or phenylene) and (3) a polyalkylene oxide compound. The photosensitive composition contains the above solid, polyester and a photosensitive compound. The solid may be a pigment or a dye. The photosensitive material for color proof using the photosensitive composition is also claimed.

IT 4097-89-6DP, Tris(2-aminoethyl)amine, reaction product with polyester and benzoic acid 9002-98-6DP, reaction product with polyester 26913-06-4DP, Poly[imino(1,2-ethanediyl)], reaction product with polyester  
RL: PNU (Preparation, unclassified); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(prepared and contained in solid dispersion photosensitive composition for making photosensitive material for color proof)

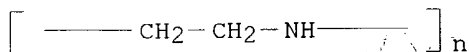
RN 4097-89-6 HCAPLUS  
CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS  
CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
CM 1  
CRN 151-56-4  
CMF C2 H5 N



RN 26913-06-4 HCAPLUS  
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



L14 ANSWER 7 OF 7 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1997:187171 HCAPLUS

DOCUMENT NUMBER: 126:186683

TITLE: Proton Binding Characteristics of Branched Polyelectrolytes

AUTHOR(S): Borkovec, Michal; Koper, Ger J. M.

CORPORATE SOURCE: Swiss Federal Institute of Technology, ETH-ITO, Schlieren, 8952, Switz.

SOURCE: Macromolecules (1997), 30(7), 2151-2158  
CODEN: MAMOBX; ISSN: 0024-9297

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Acid-base properties of branched, weak polyelectrolytes are analyzed theor. by means of Ising models with short-range interactions. Assuming that the structure of the branched polyelectrolyte can be approximated by the topol. of a tree (no closed loops), the Ising model with nearest neighbor pair interactions can be solved with exact recursion relations. We demonstrate that the branching structure has important implications for the protonation behavior of weak polyelectrolytes. For instance, the protonation a dendritic and a comblike polyelectrolyte proceed rather differently. Within this framework, the titration behavior of branched poly(ethylene imine) can be explained quant.

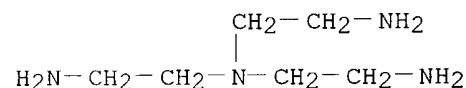
IT 4097-89-6, Tris(2-aminoethyl)amine 9002-98-6  
26913-06-4, Poly[imino(1,2-ethanediy)]

RL: PRP (Properties)

(study of proton binding characteristics of branched or comblike polyelectrolytes by Ising model)

RN 4097-89-6 HCAPLUS

CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

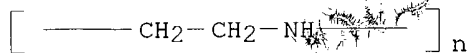
CM 1

CRN 151-56-4

CMF C2 H5 N



RN 26913-06-4 HCAPLUS  
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)



=&gt; d que

L4 1121 SEA FILE=HCAPLUS ABB=ON PLU=ON POLYETHYLENIMINE/CT  
 L5 2 SEA FILE=REGISTRY ABB=ON PLU=ON POLYETHYLENIMINE/CN  
 L6 246 SEA FILE=REGISTRY ABB=ON PLU=ON (26913-06-4/CRN OR 9002-98-6/  
 CRN)  
 L7 7 SEA FILE=REGISTRY POLYLINK L5  
 L8 9470 SEA FILE=HCAPLUS ABB=ON PLU=ON L7  
 L9 1121 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 AND L8  
 L11 STR

10

NH

{

CH2 9

{

CH2 8

{

NH~CH2~CH2~N~CH2~CH2~NH

1 2 3 4 5 6 7

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 10

## STEREO ATTRIBUTES: NONE

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 L14 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L9 AND L13  
 L15 249 SEA FILE=REGISTRY ABB=ON PLU=ON (26778-51-8/CRN OR 26913-06-4/  
 /CRN OR 30600-35-2/CRN OR 31855-23-9/CRN OR 49553-92-6/CRN OR  
 49553-93-7/CRN OR 9002-98-6/CRN)  
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 L13  
 L18 158546 SEA FILE=HCAPLUS ABB=ON PLU=ON DRUG DELIVERY SYSTEMS+OLD/CT  
 L19 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND L18  
 L20 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND (TRANSPORT? OR CARRY  
 OR CARRIE? OR TRANSFER?)  
 L21 10 SEA FILE=HCAPLUS ABB=ON PLU=ON L19 OR L20  
 L22 8 SEA FILE=HCAPLUS ABB=ON PLU=ON L21 NOT L14

=&gt; d 122 ibib abs hitind hitstr 1-8

L22 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:850380 HCAPLUS

DOCUMENT NUMBER: 140:42559

TITLE: Living radical polymerization of vinyl chloride  
 initiated with iodoform and catalyzed by nascent  
 Cu0/tris(2-aminoethyl)amine or polyethyleneimine in  
 water at 25 °C proceeds by a new competing  
 pathways mechanism

AUTHOR(S): Percec, Virgil; Popov, Anatoliy V.; Ramirez-Castillo,  
 Ernesto; Weichold, Oliver

CORPORATE SOURCE: Roy & Diana Vagelos Laboratories, Department of Chemistry, University of Pennsylvania, Philadelphia, PA, 19104-6323, USA

SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2003), 41(21), 3283-3299  
CODEN: JPACEC; ISSN: 0887-624X

PUBLISHER: John Wiley & Sons, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The first example of living radical polymerization of vinyl chloride **carried** out in water at 25° is reported. This polymerization was initiated by iodoform and catalyzed by nascent Cu0 produced by the disproportionation of CuI in the presence of strongly CuII binding ligands such as tris(2-aminoethyl)amine or polyethyleneimine. The resulting poly(vinyl chloride) was free of structural defects, had controlled mol. weight and narrow mol. weight distribution, contained two .apprx.CHCII active chain ends, and had a higher syndiotacticity (62%) than the one obtained by conventional free-radical polymerization at the same temperature (56%).

This novel polymerization proceeds, most probably, by a combination of competitive pathways

that involves activation by single electron **transfer** mediated by nascent Cu0 and degenerative chain **transfer**.

CC 35-4 (Chemistry of Synthetic High Polymers)

IT Bond energy  
Chain **transfer**  
Tacticity

(living radical polymerization of vinyl chloride initiated with iodoform and catalyzed by nascent Cu0/tris(2-aminoethyl)amine or polyethyleneimine)

IT 75-47-8, Iodoform **4097-89-6**, Tris(2-aminoethyl)amine

7440-50-8, Copper, uses **9002-98-6**

RL: CAT (Catalyst use); USES (Uses)

(living radical polymerization of vinyl chloride initiated with iodoform and catalyzed by nascent Cu0/tris(2-aminoethyl)amine or polyethyleneimine)

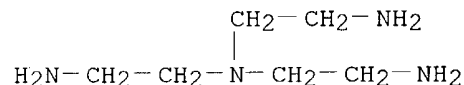
IT **4097-89-6**, Tris(2-aminoethyl)amine **9002-98-6**

RL: CAT (Catalyst use); USES (Uses)

(living radical polymerization of vinyl chloride initiated with iodoform and catalyzed by nascent Cu0/tris(2-aminoethyl)amine or polyethyleneimine)

RN 4097-89-6 HCAPLUS

CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N





REFERENCE COUNT: 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:832633 HCAPLUS

DOCUMENT NUMBER: 137:338581

TITLE: Method for reducing copper levels and treating copper toxicosis

INVENTOR(S): Holmes-Farley, Stephen Randall

PATENT ASSIGNEE(S): Geltex Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 45 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085383	A1	20021031	WO 2002-US11496	20020410
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002182168	A1	20021205	US 2002-125702	20020417
PRIORITY APPLN. INFO:			US 2001-284445P	P 20010418
			US 2001-305592P	P 20010713
AB A method for reducing Cu levels in a patient and for treating Cu toxicosis and Wilson's Disease includes administering to the patient a therapeutically effective amount of an amine polymer, where the amine polymer is substantially water-insol. or nonabsorbent in the gastrointestinal tract. Examples of polymers that are useful includes Sevelamer HCl and Colesevelam. The use of amine polymers such as a crosslinked polymer $-(CH_2CH_n(CH)_xNH)$ unit and salts and copolymers, where n is pos. and x = 0 or 1-4.				
IC ICM A61K031-785 ICS A61P003-00				
CC 37-3 (Plastics Manufacture and Processing) Section cross-reference(s): 1				
IT <b>Drug delivery systems</b> Human (chelating polyamine for therapeutically reducing copper levels)				
IT 104-78-9DP, reaction products with divinylbenzene-Me methacrylate copolymer 106-89-8DP, Epichlorohydrin, reaction products with polyethyleneimine 107-15-3DP, Ethylenediamine, reaction products with divinylbenzene-Me methacrylate copolymer 111-40-0DP, Diethylenetriamine, reaction products with divinylbenzene-Me methacrylate copolymer				

306-60-5DP, Agmatine, reaction products with crosslinked poly(N-hydroxysuccinimide) 2482-00-0DP, Agmatine sulfate, reaction products with crosslinked poly(methacryloyl chloride) 2582-30-1DP, Aminoguanidine bicarbonate, reaction products with crosslinked poly(N-hydroxysuccinimide) 4067-16-7DP, Pentaethylenehexamine, reaction products with crosslinked poly(N-hydroxysuccinimide) **4097-89-6DP**, Tris(2-aminoethyl)amine, reaction products with crosslinked poly(N-hydroxysuccinimide) **9002-98-6DP**, reaction products with epichlorohydrin **26338-45-4DP**, Aziridine, homopolymer, hydrochloride, methylated **26338-45-4P**, Aziridine, homopolymer, hydrochloride 34369-44-3P, Epichlorohydrin-pentaethylenehexamine copolymer 71550-12-4P, Poly (allylamine) hydrochloride **90451-16-4P**, Aziridine homopolymer sulfate 95522-45-5P, Epichlorohydrin-2-methylimidazole copolymer 130530-88-0P, 3-(Methacryloylamino)propyltrimethylammonium chloride-methylenebisacrylamide copolymer 132460-82-3P, Dimethylaminopropylacrylamide-methylenebisacrylamide copolymer 152751-57-0P, Allylamine hydrochloride-epichlorohydrin copolymer 162786-28-9P, Acryloyl chloride-aziridine copolymer 162786-38-1P 162786-39-2P 162786-40-5P 162786-41-6P 198343-02-1P, Allylamine hydrochloride-butanediol diglycidyl ether copolymer 198343-03-2P, Allylamine hydrochloride-ethanediol diglycidyl ether copolymer 198343-04-3P, Allylamine hydrochloride-dimethyl succinate copolymer 473911-93-2P

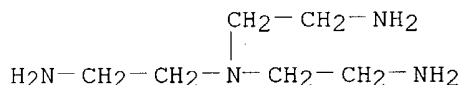
RL: IMF (Industrial manufacture); PREP (Preparation)  
(chelating polyamine for therapeutically reducing copper levels)

IT **4097-89-6DP**, Tris(2-aminoethyl)amine, reaction products with crosslinked poly(N-hydroxysuccinimide) **9002-98-6DP**, reaction products with epichlorohydrin **26338-45-4DP**, Aziridine, homopolymer, hydrochloride, methylated **26338-45-4P**, Aziridine, homopolymer, hydrochloride **90451-16-4P**, Aziridine homopolymer sulfate

RL: IMF (Industrial manufacture); PREP (Preparation)  
(chelating polyamine for therapeutically reducing copper levels)

RN 4097-89-6 HCAPLUS

CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



RN 26338-45-4 HCAPLUS  
CN Aziridine, homopolymer, hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 9002-98-6  
CMF (C2 H5 N)x  
CCI PMS

CM 2

CRN 151-56-4  
CMF C2 H5 N



RN 26338-45-4 HCAPLUS  
CN Aziridine, homopolymer, hydrochloride (9CI) (CA INDEX NAME)

CM 1

CRN 9002-98-6  
CMF (C2 H5 N)x  
CCI PMS

CM 2

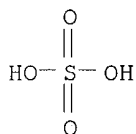
CRN 151-56-4  
CMF C2 H5 N



RN 90451-16-4 HCAPLUS  
CN Aziridine, homopolymer, sulfate (9CI) (CA INDEX NAME)

CM 1

CRN 7664-93-9  
CMF H2 O4 S



CM 2

CRN 9002-98-6  
 CMF (C2 H5 N)x  
 CCI PMS

CM 3

CRN 151-56-4  
 CMF C2 H5 N



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:832631 HCAPLUS

DOCUMENT NUMBER: 137:333145

TITLE: Method for treating gout and binding uric acid

INVENTOR(S): Holmes-Farley, Stephen Randall; Burke, Steven K.

PATENT ASSIGNEE(S): Geltex Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 46 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085381	A1	20021031	WO 2002-US11492	20020410
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1416942	A1	20040512	EP 2002-726732	20020410
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003039627	A1	20030227	US 2002-125685	20020417
PRIORITY APPLN. INFO.:				
			US 2001-284445P	P 20010418
			US 2001-305567P	P 20010713
			WO 2002-US11492	W 20020410

AB A method for treating gout and/or reducing serum uric acid levels in a patient is disclosed that includes administering to the patient a therapeutically effective amount of an amine polymer, for example, an aliphatic amine polymer. In one embodiment, the polymer binds to uric acid or a precursor thereof. Examples of polymers useful in an embodiment of the

invention include sevelamer hydrochloride and colesevelam. The invention includes the use of amine polymers such as a cross-linked polymer characterized by a repeat unit having the formula  $(-(CH_2-CH_n-(CH)_x-NH))$  and salts and copolymers thereof, where n is a pos. integer and x is zero or an integer between 1 and about 4. Also described is a use, for the manufacture of a medicament, of a polymer that binds serum uric acid in a patient.

IC ICM A61K031-785

ICS A61P003-00

CC 1-7 (Pharmacology)

Section cross-reference(s): 35

IT **Drug delivery systems**

Gout

Human

(method for treating gout and binding uric acid)

IT 106-89-8DP, Epichlorohydrin, reaction products with poly(ethylenimine)  
2582-30-1DP, polyacrylamide derivs. **9002-98-6DP**,  
Poly(ethylenimine), reaction products with epichlorohydrin 28408-65-3DP,  
hydrolyzed 34369-44-3P 95522-45-5P 130530-88-0P 132460-82-3P  
161035-25-2DP, agmatine amide derivs. 161035-25-2P 162786-28-9P  
162786-34-7P 162786-36-9DP, reaction products with agmatine  
162786-36-9P 162786-37-0P 162786-38-1P 162786-39-2P 162786-40-5P  
162786-41-6P 198343-02-1P 198343-03-2P 198343-04-3P 201610-46-0P  
**201610-47-1P** 473721-42-5P 473721-43-6P 473721-46-9P  
473911-93-2P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(method for treating gout and binding uric acid)

IT 60-35-5, Acetamide, reactions 75-07-0, Acetaldehyde, reactions  
104-78-9 306-60-5D, Agmatine, polyacrylamide derivs. 814-68-6,  
Acryloyl chloride 2482-00-0D, Agmatine sulfate, reaction products with  
methacrylic polymers 6066-82-6, N-Hydroxysuccinimide **9002-98-6**  
RL: RCT (Reactant); RACT (Reactant or reagent)

(method for treating gout and binding uric acid)

IT **9002-98-6DP**, Poly(ethylenimine), reaction products with  
epichlorohydrin **201610-47-1P**

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(method for treating gout and binding uric acid)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



RN 201610-47-1 HCAPLUS

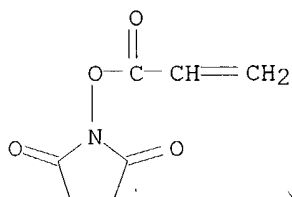
CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-bis(2-aminoethyl)-1,2-

ethanediamine and 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI)  
(CA INDEX NAME)

CM 1

CRN 38862-24-7

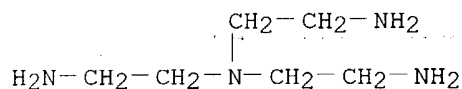
CMF C7 H7 N O4



CM 2

CRN 4097-89-6

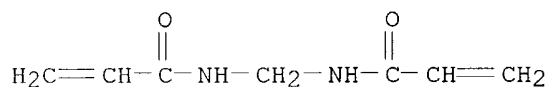
CMF C6 H18 N4



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



IT 9002-98-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(method for treating gout and binding uric acid)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:832630 HCAPLUS

DOCUMENT NUMBER: 137:333144

TITLE: Method for treating gout and reducing serum uric acid.

INVENTOR(S): Holmes-Farley, Stephen Randall; Burke, Steven K.

PATENT ASSIGNEE(S): Geltex Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085380	A1	20021031	WO 2002-US11491	20020410
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 2002187120	A1	20021212	US 2002-125793	20020417
PRIORITY APPLN. INFO.:			US 2001-284445P	P 20010418
			US 2001-305568P	P 20010713

AB A method for treating gout and/or reducing serum uric acid levels in a patient is disclosed that includes administering to the patient a therapeutically effective amount of an amine polymer; for example, an aliphatic amine polymer. Examples of polymers useful in the invention are sevelamer hydrogen chloride and colesevelam. The invention includes the use of amine polymers such as a cross-linked polymer characterized by a repeat unit having the formula  $(-(CH_2-CH_n-(CH_2)_x-NH_2))$  and salts and copolymers thereof, where n is a pos. integer and x is zero or an integer between 1 and about 4. Also described is a use, for the manufacture of a medicament, of a polymer that reduces serum uric acid levels in a patient.

ICM A61K031-785

ICS A61P003-00

CC 1-7 (Pharmacology)

Section cross-reference(s): 35

IT Drug delivery systems

Gout

Human

(method for treating gout and reducing serum uric acid)

IT 2482-00-0DP, Agmatine sulfate, reaction products with acrylic polymers  
 2582-30-1DP, Aminoguanidine bicarbonate, reaction products with acrylic polymers 9002-98-6DP, Poly(ethylenimine), reaction products with epichlorohydrin 34369-44-3P 95522-45-5P 130530-88-0P 132460-82-3P  
 161035-25-2DP, agmatine amide derivs. 161035-25-2P 162786-28-9P  
 162786-34-7P 162786-36-9DP, reaction products with agmatine  
 162786-36-9P 162786-37-0P 162786-38-1P 162786-39-2P 162786-40-5P  
 162786-41-6P 162786-44-9P 198343-02-1P 198343-03-2P 198343-04-3P

201610-46-0P **201610-47-1P** 473721-42-5P 473721-43-6P  
473721-46-9P 473911-93-2P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(method for treating gout and reducing serum uric acid)

IT 60-35-5, Acetamide, reactions 75-07-0, Acetaldehyde, reactions  
104-78-9 306-60-5D, Agmatine, reaction products with acrylic polymers  
814-68-6, Acryloyl chloride 4067-16-7, Pentaethylene hexamine  
6066-82-6, N-Hydroxysuccinimide **9002-98-6**

RL: RCT (Reactant); RACT (Reactant or reagent)

(method for treating gout and reducing serum uric acid)

IT **9002-98-6DP**, Poly(ethylenimine), reaction products with  
epichlorohydrin **201610-47-1P**

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
(Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
(Uses)

(method for treating gout and reducing serum uric acid)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



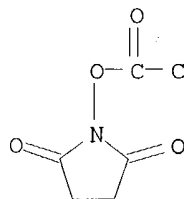
RN 201610-47-1 HCAPLUS

CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-bis(2-aminoethyl)-1,2-  
ethanediamine and 1-[1-oxo-2-propenyl]oxy]-2,5-pyrrolidinedione (9CI)  
(CA INDEX NAME)

CM 1

CRN 38862-24-7

CMF C7 H7 N O4

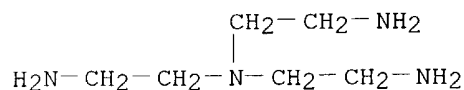


CM 2

CRN 4097-89-6

CMF C6 H18 N4

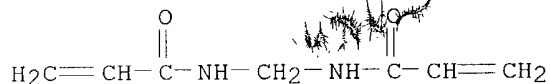




CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



IT 9002-98-6

RL: RCT (Reactant); RACT (Reactant or reagent)  
(method for treating gout and reducing serum uric acid)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:832627 HCAPLUS

DOCUMENT NUMBER: 137:320319

TITLE: Method for lowering serum glucose

INVENTOR(S): Burke, Steven K.

PATENT ASSIGNEE(S): Geltex Pharmaceuticals, Inc., USA

SOURCE: PCT Int. Appl., 41 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 7

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002085377	A1	20021031	WO 2002-US11493	20020410
WO 2002085377	C1	20021128		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,

CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
 GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
 LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,  
 PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,  
 UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,  
 CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,  
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 EP 1392331 A1 20040303 EP 2002-726733 20020410  
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

US 2002187121 A1 20021212 US 2002-125700 20020417

PRIORITY APPLN. INFO.:

US 2001-284445P P 20010418

US 2001-305564P P 20010713

WO 2002-US11493 W 20020410

AB A method for treating hyperglycemia and/or reducing serum glucose levels in a patient that includes administering to the patient a therapeutically effective amount of an amine polymer is disclosed. In one embodiment, the amine polymer is aliphatic. Examples of polymers useful in an embodiment of the invention include sevelamer hydrogen chloride and colesevelam. The invention includes the use of amine polymers such as a cross-linked polymer characterized by a repeat unit having the formula: and salts and copolymers thereof, where n is a pos. integer and x is zero or an integer between 1 and about 4. Also described is a use, for the manufacture of a medicament, of a polymer that lowers serum glucose.

IC ICM A61K031-75

ICS A61P003-00

CC 1-10 (Pharmacology)

IT **Drug delivery systems**

(amine polymers; aliphatic amine polymers for lowering serum glucose in a patient)

IT 306-60-5DP, polyacrylamide derivs. 2482-00-0DP, polyacrylamide derivs.  
 2582-30-1DP, polyacrylamide derivs. 9017-37-2P, Divinylbenzene-methyl  
 methacrylate copolymer 25610-84-8P 28408-65-3DP, hydrolyzed  
 34369-44-3P 57491-00-6P 62238-80-6P, Polydiallylamine 71550-12-4P  
 130530-88-0P 152751-57-0P 161035-25-2DP, agmatine amide  
 derivs. 161035-25-2P 162786-28-9P 162786-34-7P 162786-35-8P  
 162786-36-9DP, agmatine amide derivs. 162786-36-9P 162786-37-0P  
 162786-38-1P 162786-39-2P 162786-40-5P 162786-41-6P 162786-44-9P  
 198343-02-1P 198343-03-2P 198343-04-3P 201610-46-0P  
**201610-47-1P** 473721-42-5P 473721-43-6P 473721-44-7DP,  
 guanidine amide derivs. 473721-44-7P 473721-46-9P 473721-47-0P  
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

(aliphatic amine polymers for lowering serum glucose in a patient)

IT 106-89-8, Epichlorohydrin, biological studies 7647-01-0, Hydrogen  
 chloride, biological studies **9002-98-6** 26336-38-9,  
 Polyvinylamine 182815-43-6, Colesevelam  
 RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)

(aliphatic amine polymers for lowering serum glucose in a patient)

IT **201610-47-1P**  
 RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU  
 (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES  
 (Uses)

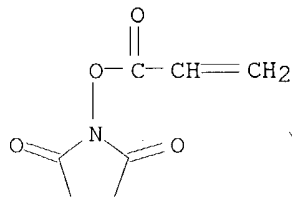
(aliphatic amine polymers for lowering serum glucose in a patient)

RN 201610-47-1 HCAPLUS  
 CN 2-Propenamide, N,N'-methylenebis-, polymer with N,N-bis(2-aminoethyl)-1,2-ethanediamine and 1-[(1-oxo-2-propenyl)oxy]-2,5-pyrrolidinedione (9CI)  
 (CA INDEX NAME)

CM 1

CRN 38862-24-7

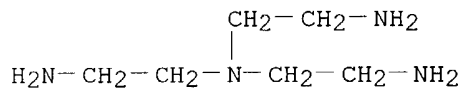
CMF C7 H7 N O4



CM 2

CRN 4097-89-6

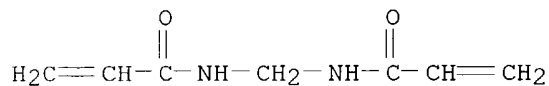
CMF C6 H18 N4



CM 3

CRN 110-26-9

CMF C7 H10 N2 O2



IT 9002-98-6

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL  
 (Biological study); USES (Uses)

(aliphatic amine polymers for lowering serum glucose in a patient)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:521725 HCAPLUS

DOCUMENT NUMBER: 137:98996

TITLE: Preparation of tetraether lipid derivatives and liposomes containing tetraether lipid derivatives and lipid agglomerates and their usage for drug targeting

INVENTOR(S): Kuehl, Christine; Tewes, Bernhard; Hagen, Martin; Gropp, Felix; Littger, Ralf; Marx, Uwe

PATENT ASSIGNEE(S): Bernina Biosystems G.m.b.H., Germany

SOURCE: PCT Int. Appl., 88 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002053554	A2	20020711	WO 2001-EP15356	20011228
WO 2002053554	A3	20020919		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10065561	A1	20020711	DE 2000-10065561	20001228
EP 1347964	A2	20031001	EP 2001-985932	20011228
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRIORITY APPLN. INFO.:			DE 2000-10065561	A 20001228
			WO 2001-EP15356	W 20011228

OTHER SOURCE(S): MARPAT 137:98996

AB The invention relates to novel tetraether lipid derivs. which can be used for producing liposomes and lipid agglomerates with improved stability which are simple and reliable. The invention also relates to liposomes and lipid agglomerates with an increased lifespan. Thus tetraether lipids DGTEs (glycerol-dialkyl-glycerol-tetraethers) were isolated from Sulfolobus acidocaldarius fermentation broth. DGTE derivs. were prepared that were used for further synthesis. DGTE diacyl chloride was reacted with MeO-PEG-NH<sub>2</sub>; the Bis-(Methoxy-PEG)-tetraether product was incorporated in liposomes with phosphatidylcholine. The stability of the liposomes was tested by the inclusion of carboxyfluorescein; liposomes containing 5% of Bis-(Methoxy-PEG)-tetraether showed substantially lower release of the dye in blood serum than liposomes without the tetraether derivative In another

experiment DGTE-trimethylamine phosphate derivative was prepared and used with phosphatidylcholine in oral drug delivery liposomes for the somatostatin-analog peptide octreotide. In a third experiment CHO cells were transfected with plasmids that were included in liposomes composed of a Bis[3-(dimethylamino)-propyl]-amine derivative of DGTE, phosphatidylcholine, cholesterol, and dioleylphosphatidylethanolamine.

- IC ICM C07D323-00
- ICS A61K009-127
- CC 63-6 (Pharmaceuticals)
- Section cross-reference(s): 1, 16, 28
- IT **Drug delivery systems**  
(enteric; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(injections, i.m.; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(injections, i.v.; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(injections, s.c.; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(liposomes; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(oral; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT Coating process  
**Drug delivery systems**  
Fermentation  
Gene therapy  
Liquid chromatography  
Plasmid vectors  
Stability  
Sulfolobus acidocaldarius  
Transformation, genetic  
(preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(pulmonary; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Transferrins**  
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
(sequences from, ligands; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)
- IT **Drug delivery systems**  
(topical; preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)

targeting)

IT 57-88-5, Cholesterol, biological studies 2462-63-7, DOPE  
 9002-98-6 25104-18-1, Poly-lysine 137056-72-5, DC-Chol  
 144189-73-1, DOTAP 178532-92-8, DOSPER  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical  
 process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);  
 USES (Uses)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether  
 lipid derivs. and lipid agglomerates and usage for drug targeting)

IT 161038-11-5P 441349-44-6P 441349-47-9P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether  
 lipid derivs. and lipid agglomerates and usage for drug targeting)

IT 4097-89-6, TREN 4167-02-6, 2-Bromoethyl dichlorophosphate  
 6711-48-4 10025-87-3, Phosphoric trichloride 80506-64-5 99560-06-2  
 121893-20-7 441349-35-5 441349-37-7 441349-39-9  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether  
 lipid derivs. and lipid agglomerates and usage for drug targeting)

IT 9002-98-6  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical  
 process); THU (Therapeutic use); BIOL (Biological study); PROC (Process);  
 USES (Uses)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether  
 lipid derivs. and lipid agglomerates and usage for drug targeting)

RN 9002-98-6 HCAPLUS  
 CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

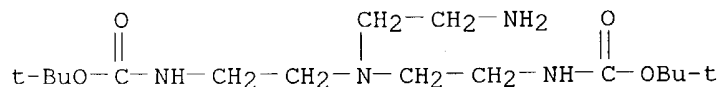
CRN 151-56-4

CMF C2 H5 N



IT 161038-11-5P 441349-44-6P  
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP  
 (Preparation); RACT (Reactant or reagent)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether  
 lipid derivs. and lipid agglomerates and usage for drug targeting)

RN 161038-11-5 HCAPLUS  
 CN 10-Oxa-2,5,8-triazadodecanoic acid, 5-(2-aminoethyl)-11,11-dimethyl-9-oxo-  
 , 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

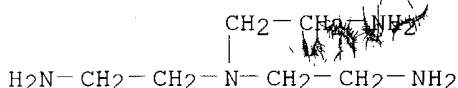


RN 441349-44-6 HCAPLUS  
 CN 10-Oxa-2,5,8-triazadodecanoic acid, 5,5'-[[(2R,7R,11R,15S,19S,22S,26S,30R,

34R,38R,43R,47R,51S,55S,58S,62S,66R,70R)-7,11,15,19,22,26,30,34,43,47,51,55,58,62,66,70-hexadecamethyl-1,4,37,40-tetraoxacyclodoheptacontane-2,38-diyl]bis(carbonylimino-2,1-ethanediyl)]bis[11,11-dimethyl-9-oxo-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 4097-89-6, TREN  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (preparation of tetraether lipid derivs. and liposomes containing tetraether lipid derivs. and lipid agglomerates and usage for drug targeting)  
 RN 4097-89-6 HCAPLUS  
 CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



L22 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2002:311301 HCAPLUS

DOCUMENT NUMBER: 137:389091

TITLE: Various cationic **carriers** for in vitro transfection of tumor and endothelial cell lines

AUTHOR(S): Zemlinska, Barbara; Sochanik, Aleksander; Missöl-Kolká, Ewa; Szala, Stanisław

CORPORATE SOURCE: Department of Molecular Biology, Center of Oncology-Maria Skłodowska-Curie Memorial Institute, Gliwice, 44-101, Pol.

SOURCE: Acta Biochimica Polonica (2002), 49(1), 285-290  
 CODEN: ABPLAF; ISSN: 0001-527X

PUBLISHER: Polish Biochemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We compared the efficiency of in vitro DNA **transfer** into selected tumor and endothelial cell lines using complexes of plasmid DNA and cationic **carriers**: DDAB/DOPE, DC-Chol/DOPE, Arg-Chol/DOPE, Gly-Chol/DOPE, Arg-Gly-Chol/DOPE, BGTC/DOPE, and PEI. The best **carriers** for transfecting the majority of tested cells lines at optimized **carrier**-to-DNA weight ratios were PEI and BGTC/DOPE.

CC 63-5 (Pharmaceuticals)

Section cross-reference(s): 3

ST tumor endothelium transfection plasmid DNA cationic **carrier**

IT Bladder, neoplasm  
 (carcinoma; cationic **carriers** for transfection of tumor and endothelial cell lines)

IT Genetic vectors

Human

Melanoma

Neoplasm

Plasmid vectors

Transformation, genetic

(cationic **carriers** for transfection of tumor and endothelial cell lines)

IT Blood vessel  
 (endothelium; cationic **carriers** for transfection of tumor and

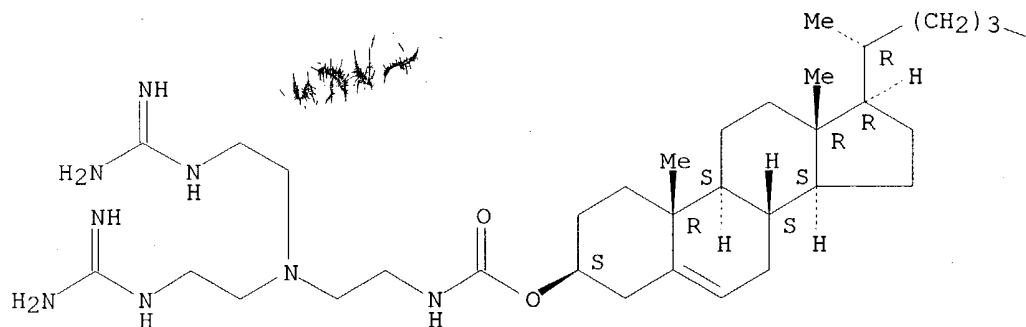
endothelial cell lines)  
 IT 3700-67-2, Dimethyldioctadecyl ammonium bromide 4004-05-1, DOPE  
 9002-98-6 73670-26-5 137056-72-5 182056-06-0  
 475645-85-3 475645-86-4  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (cationic **carriers** for transfection of tumor and endothelial  
 cell lines)  
 IT 9002-98-6 182056-06-0  
 RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)  
 (cationic **carriers** for transfection of tumor and endothelial  
 cell lines)  
 RN 9002-98-6 HCAPLUS  
 CN Aziridine, homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 151-56-4  
 CMF C2 H5 N



RN 182056-06-0 HCAPLUS  
 CN Cholest-5-en-3-ol (3 $\beta$ )-, [2-[bis[2-[(aminoiminomethyl)amino]ethyl]ami  
 no]ethyl]carbamate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

CHMe<sub>2</sub>

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS  
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2004 ACS on STN



ACCESSION NUMBER: 2000:608924 HCAPLUS  
 DOCUMENT NUMBER: 133:203820  
 TITLE: Intravascular delivery of non-viral nucleic acid  
 INVENTOR(S): Wolff, Jon A.; Monahan, Sean D.; Hagstrom, James E.;  
 Slattum, Paul M.; Budker, Vladimir G.; Rozema, David  
 B.  
 PATENT ASSIGNEE(S): Mirus Corp., USA  
 SOURCE: PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 15  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000050617	A1	20000831	WO 2000-US4521	20000222
W: JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1161547	A1	20011212	EP 2000-911912	20000222
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
WO 2003040375	A1	20030515	WO 2002-US17556	20020530
W: JP				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
US 2003216347	A1	20031120	US 2003-600098	20030620
PRIORITY APPLN. INFO.:				
			US 1999-121730P	P 19990226
			US 1999-146564P	P 19990730
			US 1999-447966	A3 19991123
			WO 2000-US4521	W 20000222
			US 2001-12804	A 20011106
<p>AB Disclosed is a process for transfecting genetic material into a mammalian cell to alter endogenous properties of the cell. The process comprises designing a polynucleotide for transfection. Then the polynucleotide is inserted into a mammalian vessel such as a tail vein or artery. Prior to insertion, subsequent to insertion, or concurrent with insertion the permeability of the vessel is increased thereby the genetic material is delivered to the parenchymal cell altering endogenous properties of the cell. The naked polynucleotide is complexed prior to delivery with amphipathic compds., polymers, or other nonviral vectors. Syntheses are described for the preparation of several activated disulfide-containing co-monomers and of pH-cleavable polymers for intracellular compartment release.</p>				
<p>IC ICM C12N015-85</p>				
<p>ICS A61K009-127; A61K048-00; C07H021-04</p>				
<p>CC 3-2 (Biochemical Genetics)</p>				
<p>Section cross-reference(s): 35</p>				
<p>IT <b>Drug delivery systems</b></p>				
<p>(injections, i.v.; intravascular delivery of non-viral nucleic acid)</p>				
<p>IT 9002-89-5DP, Polyvinyl alcohol, reaction products with 5-oxohexanoic acid</p>				
<p>25104-18-1DP, Poly(L-lysine), reaction products with citraconic anhydride</p>				
<p>or dimethylmaleic anhydride 25619-78-7DP, Poly(L-tyrosine), reaction</p>				
<p>products with citraconic anhydride 25667-16-7DP, reaction products with</p>				
<p>citraconic anhydride 26742-84-7DP, Poly(vinyl phenyl ketone), reaction</p>				
<p>products with glycerol or with glycerol and succinic anhydride</p>				

38000-06-5DP, Poly(L-lysine), reaction products with citraconic anhydride or dimethylmaleic anhydride 59269-51-1DP, Polyvinylphenol, reaction products with citraconic anhydride 209517-47-5P 289888-07-9P  
 289888-08-0P 289888-09-1P **289888-10-4P** 289888-11-5P  
**289888-12-6P** 289888-14-8P **289888-15-9P** 289888-17-1P  
 289888-18-2P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

IT 56-81-5, 1,2,3-Propanetriol, reactions 56-89-3, L-Cystine, reactions 69-78-3, 5,5'-Dithiobis(2-nitrobenzoic acid) 105-83-9 109-78-4, 3-Hydroxypropionitrile 111-30-8, Pentanedial 112-57-2, Tetraethylenepentamine 616-02-4, Citraconic anhydride 766-39-2, 2,3-Dimethylmaleic anhydride 3128-06-1, 4-Acetylbutyric acid 4067-16-7, Pentaethylenhexamine **4097-89-6**, Tris(2-aminoethyl)amine 4741-99-5, N,N'-Bis(2-aminoethyl)-1,3-propanediamine 6066-82-6, N-Hydroxysuccinimide 7209-38-3, 1,4-Bis(3-aminopropyl)piperazine 9002-89-5, Polyvinyl alcohol 10389-65-8 13551-09-2 25104-18-1, Poly(L-lysine 25619-78-7, Poly(L-tyrosine) 25667-16-7 26742-84-7, Poly(vinyl phenyl ketone) 38000-06-5, Poly(L-lysine) 52328-05-9, O-Methylisourea hydrogen sulfate 58632-95-4, 2-tert-Butoxycarbonyloxymino)-2-phenylacetone nitrile 59269-51-1, Polyvinylphenol 289888-16-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

IT **9002-98-6D**, complexes with DNA

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(intravascular delivery of non-viral nucleic acid)

IT **289888-10-4P 289888-12-6P 289888-15-9P**

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

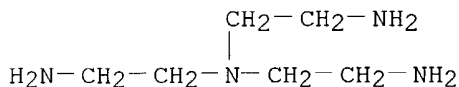
RN 289888-10-4 HCAPLUS

CN Benzoic acid, 3,3'-dithiobis[6-nitro-, polymer with N-(2-aminoethyl)-N'-[2-[(2-aminoethyl)amino]ethyl]-1,2-ethanediamine and N,N-bis(2-aminoethyl)-1,2-ethanediamine (9CI) (CA INDEX NAME)

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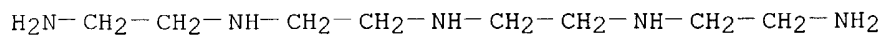
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CMF C6 H18 N4



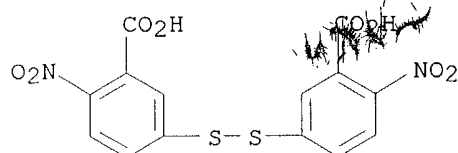
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CMF C8 H23 N5



CM 3

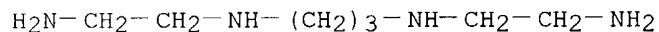
CRN 69-78-3  
CMF C14 H8 N2 O8 S2



RN 289888-12-6 HCAPLUS  
CN Benzoic acid, 3,3'-dithiobis[6-nitro-, polymer with N,N-bis(2-aminoethyl)-1,2-ethanediamine and N,N'-bis(2-aminoethyl)-1,3-propanediamine (9CI) (CA INDEX NAME)

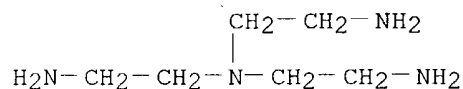
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CRN 4741-99-5  
CMF C7 H20 N4



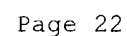
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CRN 4097-89-6  
CMF C6 H18 N4



CM 3

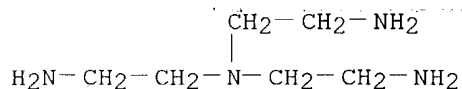
CRN 69-78-3  
CMF C14 H8 N2 O8 S2



(chemical synthesis of polymers for DNA complexation; intravascular delivery of non-viral nucleic acid)

RN 4097-89-6 HCAPLUS

CN 1,2-Ethanediamine, N,N-bis(2-aminoethyl)- (9CI) (CA INDEX NAME)



IT 9002-98-6D, complexes with DNA

RL: BUU (Biological use, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(intravascular delivery of non-viral nucleic acid)

RN 9002-98-6 HCAPLUS

CN Aziridine, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 151-56-4

CMF C2 H5 N



REFERENCE COUNT:

7

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L1 STR

21

NH

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CH2 20

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CH2 19

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CH2-CH2-N~CH2-CH2-NH~CH2-CH2-N~CH2-CH2-NH~CH2-CH2-N~CH2-CH2-NH2  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

## NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

## GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

## STEREO ATTRIBUTES: NONE

L2 1 SEA FILE=ZREGISTRY SSS FUL L1

L3 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L2

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L3 ANSWER 1 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1987:4518 HCAPLUS

DOCUMENT NUMBER: 106:4518

TITLE: Higher polyethylenepolyamines

INVENTOR(S): Zgoda, Marian M.; Petri, Stanislaw

PATENT ASSIGNEE(S): Akademia Medyczna, Lodz, Pol.

SOURCE: Pol., 4 pp.

CODEN: POXXA7

DOCUMENT TYPE: Patent

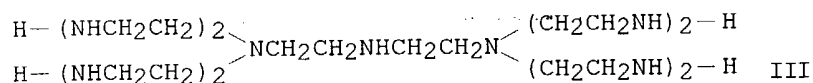
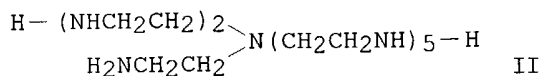
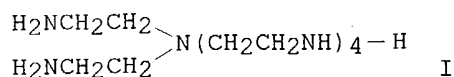
LANGUAGE: Polish

FAMILY ACC. NUM. COUNT: 1

## PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PL 127609	B1	19831130	PL 1979-215818	19790524
PRIORITY APPLN. INFO.:			PL 1979-215818	19790524

GI



AB Higher polyethylenepolyamines I, II, and III are prepared by condensation of linear polyamines  $\text{H}_2\text{N}(\text{CH}_2\text{CH}_2\text{NH})_n\text{H}$  (where  $n = 2, 3$ , or  $4$ ) with bis(2-chloroethyl)amine hydrochloride (IV) in MeOH in a N atmospheric I, II, and

III have cytostatic and cytotoxic properties (no data). Thus, 2.18 g IV was added to 56.96 g diethylenetriamine dissolved in 0.1 dm<sup>3</sup> MeOH during 2 h. Condensation was done 24 h in N at 80-90°. The condensation product was cooled to 0-2° and salted out by using a KOH solution in MeOH. After drying, MeOH was distilled. The resulting 43.3 g I was purified on the Sephadex LH-20 mol. sieve.

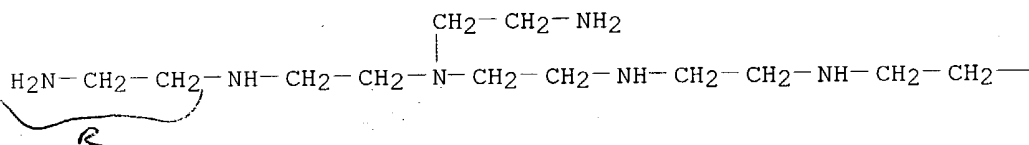
IT 87998-19-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as cytostatic agent)

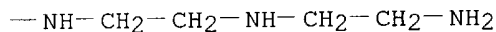
RN 87998-19-4 HCAPLUS

CN 3,6,9,12,15,18-Hexaazaeicosane-1,20-diamine, 6-(2-aminoethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



L3 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1984:5765 HCAPLUS

DOCUMENT NUMBER: 100:5765

TITLE: Polyethylenepolyamines. Part IV. Products of condensation of polyamines of  $\text{NH}_2-(\text{CH}_2\text{CH}_2\text{NH})_n\text{H}$  type ( $n = 2, 3, 4$ ) with bis(2-chloroethyl)amine hydrochloride

AUTHOR(S): Zgoda, Marian; Petri, Stanislaw

CORPORATE SOURCE: Fac. Pharm., Sch. Med., Lodz, 90145, Pol.

SOURCE: Polish Journal of Chemistry (1982), 56(4-5-6), 833-9

CODEN: PJCHDQ; ISSN: 0137-5083

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Reaction of  $(ClCH_2CH_2)_2NH \cdot HCl$  with  $H_2N(CH_2CH_2NH)_nH$  ( $n = 2, 3, 4$ ) gave, as isolated higher products,  $(H_2NCH_2CH_2)_2N(CH_2CH_2NH)_4H$ ,  $H(NHCH_2CH_2)_2(H_2NCH_2CH_2)N(CH_2CH_2NH)_5H$ , and an amine  $C_{20}H_{53}N_{11}$ , for which three possible isomeric structures were proposed.

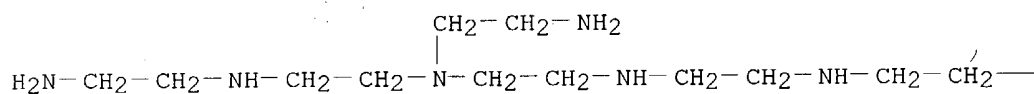
IT 87998-19-4P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

RN 87998-19-4 HCAPLUS

CN 3,6,9,12,15,18-Hexaazaeicosane-1,20-diamine, 6-(2-aminoethyl)- (9CI) (CA  
INDEX NAME)

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PAGE 1-B

